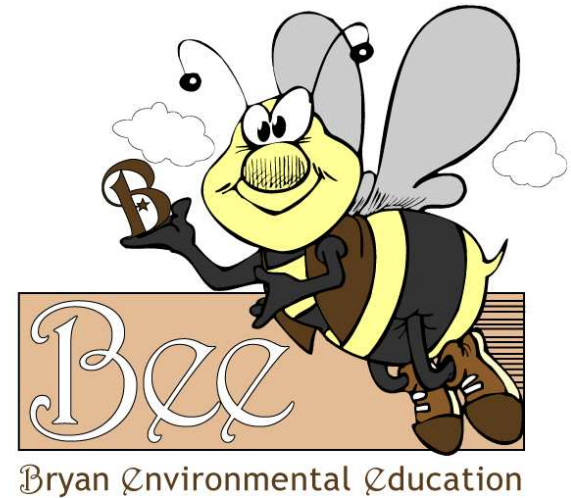


**City of Bryan  
Environmental Education  
Programs & Resources 2008-2009**



City of Bryan, Texas  
Environmental Services Division  
2008-2009



***Local Educator's Guide***

**Help Your Students “Bee” in the Know  
About Local Environmental Issues!**

Dear Educator,

The City of Bryan Environmental Services Division is dedicated to educating youth about local environmental issues. By providing teachers, students and community groups with hands-on learning resources, we hope to supplement current curriculum and:

~ Enhance students' awareness and knowledge of environmental issues and how they are linked to the local community and its ecology.

~ Assist teachers in addressing national and state academic standards.

~ Encourage and increase community service and service-learning through promotion of several environmentally-focused volunteer opportunities.

We look forward to working with you to create an environmentally literate and healthy community.

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Visit our website for more  
information and program requests

**[www.begreeninbryan.com](http://www.begreeninbryan.com)**



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## Introduction

### What is the BEE Program?

The BEE, or Bryan Environmental Education, Program was created to offer comprehensive community education focusing on the important environmental issues of litter awareness, natural resource conservation and waste reduction.

*The goal of the BEE Program is to instill in students a sense of personal accountability and environmental responsibility within the community, while offering local solutions to common environmental problems.*

Our fun and hands-on environmental education resources are available to all Bryan educators and organizations, including:

- \* BISD Teachers
- \* Private/Charter School Teachers
- \* After-School Groups
- \* Church Classes
- \* Boy/Girl Scouts
- \* Home-Schooling Families
- \* Museums
- \* Boy's & Girl's Club
- \* Youth Groups
- \* Summer Camps



### Why Environmental Education?

Environmental education (EE) increases public awareness and knowledge of environmental issues and challenges. Through EE, people gain an understanding of how their individual actions affect the environment, acquire skills that they can use to weigh various sides of issues, and become better equipped to make informed decisions. EE also gives people a deeper understanding of the environment, inspiring them to take personal responsibility for its preservation and restoration. (Adapted from the



U.S. Environmental Protection Agency)

## Notes on Our Resources



### Resource Availability

All of the Bryan Environmental Education resources are available FREE of charge, on a first come-first serve basis. In addition, we request the take home resources to be picked up and returned from the City's Municipal Service Center (1111 Waco Drive). If necessary, arrangements can be made to have kits dropped off and picked up as well.

To schedule a presentation, check out a resource or discuss volunteer opportunities, visit our website: [www.begreeninbryan.com](http://www.begreeninbryan.com) or call our environmental educator at: (979) 209-5910.



### Grade Appropriateness

Though each resource listed in this program guide was designed for a specific grade level, creative teachers may use the supplies provided for any age.



### TEKS Correlations

A "TEKS Correlation Guide" is provided with all BEE-Bins and most presentations. This guide outlines the TEKS objectives and tested TEKS met with each activity. The correlation guide is divided into three sections; by activity, by subject and by grade. Through the BEE Program resources, students will learn important concepts, meet TEKS objectives and use critical thinking skills.



### Scout Badges

Our fun and hands-on environmental education resources are available to all Bryan educators, including the Girl Scouts and Boy Scouts. Many of the scout's badge requirements may be met using the BEE Program resources. Contact the City's Environmental Educator for more information.

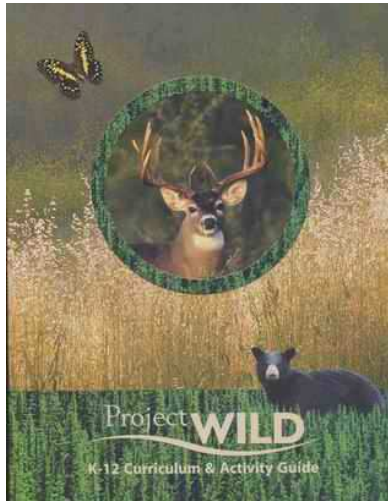
## Educator Opportunities

### Educator's Showcase

Want to share the BEE Program resources with a group of educators? Then schedule an Educator's Showcase. The BEE Program will bring all available resources to you for a hands-on review of what's available.

### Project WILD Workshops

Project WILD is one of the most widely-used conservation and environmental education programs among educators of students in kindergarten through high school. The program emphasizes wildlife because of their intrinsic, ecological value, as well as their role in teaching how ecosystems function. Project WILD addresses the need for human beings to develop as responsible citizens of our planet. It is based on the premise that young people and educators have a vital interest in learning about our natural world.



To obtain a FREE K-12 Project WILD Curriculum Guide and corresponding TEKS correlations, teachers must attend a CEU certified workshop. Contact the BEE Program today to schedule yours.

### “Bee in the Know” Educator Newsletter

Every other month the BEE Program sends via email an environmental education newsletter called “Bee in the Know”. This publication aims to help Bryan educators discover free and fun curriculum-based opportunities for the classroom.

From upcoming community events to grants and awards, the newsletter will keep you “in the know” of cutting edge of EE resources. Contact us today to subscribe to the BEE Program Newsletter!

## Interactive Presentations

### Recycling, Litter and Worm Composting

The City of Bryan offers both classroom and group presentations on any of the following topics:



#### Recycling

Students learn the recycling process, where and what to recycle locally and the importance natural resource preservation. Optional activity includes making recycled paper!



#### Litter Awareness

Allow an educator to visit your classroom and explain the negative effects of litter on a community. After reading a story about litter, students take an anti-litter pledge. Optional activity includes a quick Campus Clean-up!



#### Worm Composting

A traveling vermi-composting bin with real live worms is ready to visit your classroom! Students will have the opportunity to inspect and hold worms and learn worm anatomy. Ultimately, students will understand the benefits of composting. Optional activity includes a worm bin relay race.

### The Enviroscope

The Environmental Services Department conducts interactive in-class presentations on water pollution. The Enviroscope makes use of a model town to show students how our daily habits impact the environment and pollute the recycling process of water. (Grades K - 8)

### Mascot Visits

Both the BEE Program Mascot "Buzz" and BVSWM's Recycling Raccoon are available for classroom or auditorium presentations, as well as appearances at local events.

*Buzz and Randi are the best of friends and love teaching kids about recycling, litter awareness and composting!*



## BEE-Bins

BEE-Bins are FREE, fun and hands-on environmental lesson plan kits available for weekly check-out by all Bryan educators. These educational kits are designed for grades K-5 and accommodate up to 32 students. They are available for use in the classroom or with a group.

Each kit contains all directions and materials necessary for each activity as well as some prizes and student worksheets. All materials will be replenished upon return. The bins may be used as stand-alone programs or they can be incorporated into existing curricula.

### All about Trees

Students use tree slices and examine tree rings to find out "what happened before". The life cycle, structures, benefits and needs of trees are also reviewed using games and poetry.



### Recycling

Students learn the recycling process, where and what to recycle locally, preservation of natural resources and how to make their very own recycled paper!

### Park Habitats

Local City of Bryan parks are used to explore and understand the natural world of bird calls, animal tracks and varying habitats. Students use thermometers, magnifiers, and a moisture meter to examine and compare a square foot area in two different natural communities.

### Litter Awareness

The Wartville Wizard wants to visit your classroom to explain the negative effects of litter on a community. Afterwards, play a litter game for cool prizes!

### Worm Composting

A traveling vermi-composting bin with real live worms is ready to make its temporary home in your classroom. Through this self-enclosed ecosystem, students will learn worm anatomy, the benefits of composting, the nitrogen cycle and how to start a compost bin at home or school!



### Water Protection

Water is a valuable natural resource that needs to be protected. After reviewing the water cycle, create a mini-pond in your classroom and observe how common pollutants affect our local waterways.

## Other Take-Home Resources

### PLT Energy and Society

Project Learning Tree's Energy & Society program kit provides formal and nonformal educators with tools and activities to help students in grades PreK-8 learn about their relationship with energy and investigate the environmental issues related to energy's role in society.

Energy & Society helps students develop critical thinking skills to make decisions about their personal energy use. In addition to hands-on activities, Energy & Society integrates music and dance to enhance the study of energy issues.

The Energy & Society kit, which includes a dance DVD, music CD, 8 posters and an activity book, is available to educators for weekly check-out.



### Environmental Video Library

The BEE Program Environmental Video Library contains VHS and DVD videos on a variety of environmental and safety-related topics, such as recycling, water conservation, the safe use of fertilizers and pesticides at home and storm water pollution. Several PSAs are also available in English and Spanish. Grade levels range from K-12th.

Titles Include:

- The Texas Recycling Quiz
- Bill Nye The Science Guy - "Garbage"
- Waterhog Haven
- Don't Let a Good Thing Go To Waste -- Buy Recycled

### Environmental Jeopardy Board

A 24" x 36" laminated Jeopardy board is available for weekly check-out. The question cards included with the board were developed to challenge the way students in grades 9-12 think about important issues such as recycling, energy, sustainability, transportation and pollution.

A blank template is available for educators of any level to create their own question cards.



## Off-Campus Opportunities

### Facility Tours

The City of Bryan offers educational tours of these local facilities:

- Wastewater Treatment Plant
- The Compost Facility
- The Drive-In Recycling Center

#### **WHO may tour these facilities?**

Classes and students ages 11 and older  
Groups will need to provide 1 adult chaperone for every 10 students  
Maximum number of students per tour is 30  
The City of Bryan will not transport any students or chaperones

#### **WHAT will the tour include?**

Educational walking tours of Wastewater Treatment Plants, Compost Facility and Drive in Recycling Center  
Tours can be given individually or together in one day  
(i.e. an "Eco-Tour" is available starting at a wastewater treatment plant where sludge is processed, then ending at the Compost Facility where sludge is made into compost)

#### **WHEN are the tours available?**

Tours are available throughout the year  
During normal business hours: M-F 8-5pm  
Tours are 30-60 minutes in length per site



### Annual Events

The City of Bryan co-sponsors many events throughout the year in which students participate. In the past, students and student groups have hosted informational tables on various environmental topics, assisted in litter pick-up and conducted community surveys. Available events include Household Hazardous Waste Collection Events, the Keep Brazos Beautiful Trash-Off and Litter Index, and the Annual Planet Earth Celebration.

## Service Learning Support

### What is Service Learning?



Service-learning is a teaching method that combines academic instruction, meaningful service, and critical reflective thinking to enhance student learning and civic responsibility. Service learning is unique in that it integrates academic curriculum and content and engages students in structured reflection of their service experiences and applies their learning to real-life situations while being involved in a project.

### Benefits of Service Learning

In 1997 Brandeis University conducted research that determined that students involved in such programs (service learning) do better on standardized tests like TAKS than do students whose only exposure to the curriculum is in the classroom.



### The BEE Program's Role

The BEE Program encourages teachers and students to achieve academic goals and community needs when developing service-learning projects. As a jump start we have provided below a list of potential projects that the BEE Program can assist you in completing at your school. You may use ideas from our list or tap into students' creative sides to discover ideas for new projects. Our main role in most services learning projects is procuring free resources and linking students with community organizations that may assist them as well.

#### Litter Abatement

Campus Cleanup  
Adopt-A-Street  
Litterless Lunches  
Litter Container Project  
Storm Drain Stenciling  
Hazardous Waste Collection

#### Beautification

Garden Installation  
Tree Planting  
Trail Maintenance  
Invasive Species Removal  
Graffiti Abatement  
Mural Installation

#### Waste Reduction

Compost  
Waste Audit  
School Recycling  
Recycled Art  
Energy Audit  
Trash & Treasure Trade  
'We Can' Project  
Recycle Festival